

## Claims

What is claimed as new and desired to be secured by Letters Patent of the United States is:

Claim 1. a system comprising embedded and remote software, databases, and remote hosts, instore systems, and devices; such as price checkers, barcode scanners, display screens and printers that accept a scan as an input, queries internal and external databases using proprietary algorithms and logic, then, outputs targeted text, graphics, messages, and/or coupons to said devices in Retail stores, specifically a remotely-hosted system Fig. 2 (30) system that includes algorithms and logic associated with evaluating in real-time, from external and internal databases, multiple factors and conditions such as location, time, inventory, demand, elasticity, product life cycle and shelf life, profit margins, inventory turns, cost of goods sold, as well as identifying customers, shoppers or users, with or without collecting descriptive information, followed by the subsequent issuance of customized text, graphics, messages and/or coupons for a current or future purchase, along with the management and restart of multiple moveable "devices, from failures or power outages Fig. 6, and changes in network addresses Fig. 7

2. The system of Claim 1. above in one embodiment where, moveable "device"s are positioned at various locations Fig. 3 (44,46,48) within a Retail store commonly called a Point of Decision Fig. 3 (56), namely the point where

Shoppers make the final decision on what to buy, for those familiar in this business; these locations being for example, the door entry, the end of a merchandise aisle, commonly called an "end-cap" for those familiar in this business, merchandise shelves, outside displays and customer service desks.

3. The system of Claim 1. in another embodiment where multiple internal and external data sources are sourced in real-time.

4. The system of Claim 1. in another embodiment where the targeted text, graphics, messages, and/or coupons are specifically for a purchase on the Shopper's current visit.

5. The system of Claim 1. in another embodiment where the targeted text, graphics, messages, and/or coupons are specifically for a purchase on the Shopper's future visit.

6. The system of Claim 1. in another embodiment where Retailer data on product sales velocity before, during and after a sales promotion, and product profit margins before, during and after a sales promotion, are tracked and analyzed.

7. The system of Claim 1. in another embodiment where the present invention enables in-store lookup of rewards or loyalty points balances, from a scan of a frequent shopper/loyalty card, followed by the secure instant redemption of rewards or loyalty points by printing a secure ticket or tender.

8. The system of Claim 1. in another embodiment where the present invention enables the data input to be a button push instead of a scan.

9. The system of Claim 1. in another embodiment where the present invention enables Shoppers to enter identification data such as a barcode over the Internet, then pre-select discount offers over the Internet and then when at a store location, scan or enter identification data such as a barcode, smart card or pin number, then print the pre-selected coupons.

10. The system of Claim 1. in another embodiment where the present invention enables Shoppers to enter identification data such as a barcode over the Internet, then pre-select discount offers over the Internet and then when at a store location, scan or enter identification data such as a barcode, smart card or pin number at the POS checkout to claim the pre-selected discount offers.

11. The system of Claim 1. in another embodiment where the present invention enables users to manage and change text and graphics displays both for manual operations and schedule-based automated operations. These operations can be transactional (meaning both the database(s) and the device will be successfully updated simultaneously), or non-transactional.

12. The system of Claim 1. in another embodiment where the present invention enables a paperless electronic coupon to be redeemed at the POS checkout.

### 13. Claim 2

A second claim that the present invention, in the following ways is a non-obvious system for delivering targeted coupons and incentives, advertising messages, text displays of product and other information, based on existing solutions, components and systems used for other applications, specifically, devices commonly called "Price Checkers" or "Price Verifiers" which are used by Retailers to give Shoppers a display of a product's price, when the product barcode is scanned at the device. The present invention thus claims an extension beyond the original use of said existing solutions, components and systems by adding a printer to obtain coupon printing capability, this capability specifically enabled by the present invention's addition of hardware controllers, being a component of the moveable "device", and extends the original use of said existing solutions, components and systems by conducting 2 way communications, by assigning a network address, commonly called an IP address for those familiar in this business in order to identify the "device" on the network, this capability specifically enabled by the present invention's use of network addressing establish and maintain 2 way remote wireless communications with the moveable "device" Fig. 7, and extends the original use of said existing solutions, components and systems by detecting interruptions in power supply in order to maintain live communications, this capability specifically enabled by the present invention's use of network communications to establish and maintain 2 way remote wireless communications with the moveable "device"

Fig. 6, and extends the original use of said existing solutions, components and systems by adding a camera to allow remote visual confirmation of the moveable "device" status Fig. 4 (70).

#### 14. Claim 3

A third claim that the present invention is unique, useful and non-obvious in that most prior claims referenced, refer to marketing activities at the POS checkout Fig. 3 (50), but not at a Point of Decision Fig. 3 (56), namely the point where Shoppers make the final decision on what to buy, for those familiar in this business; these locations being for example, the door entry, the end of a merchandise aisle, commonly called an "end-cap" for those familiar in this business, merchandise shelves, outside displays and customer service desks, and in those cases where reference is made to the Point of Decision, the marketing activities are inextricably linked to the Shopper passing through the checkout to complete the marketing activity, such as checking a database of the Shopper's information to deliver an electronic promotional offer which in the present invention is not the case. In the present invention the coupon is issued and the Shopper redeems it as any other coupon, and that prior claims that do refer to marketing activities at a Point of Decision Fig. 3 (56), are generally interactive kiosks with menu screens so Shopper's can actively select menu items to obtain information or offers of some type, which in the present invention is not the case. In the present invention, the coupon is issued based on the solution's decision system and the Shopper does not have any opportunity to use

a menu to make a coupon selection, with the exception of pushing a button to activate the generation of a coupon, in lieu of scanning a product barcode or scanning a frequent shopper or loyalty card.

15. The system of Claim 3. in another embodiment, that notwithstanding referenced prior claims related to marketing at the POS, the moveable "devices" described in the present invention is positioned just in front of the POS checkout lane Fig. 3 (50), to take the scan of a barcode as a data input, then conducts a query of a database, that database specifically NOT being the transaction POS checkout system, then selectively outputs text, graphics, messages and/or coupons. This embodiment is different from prior claims in that offers generated by the present invention, are independent of the actual basket of goods to be paid for at the POS checkout, and the present invention is not integrated with the POS checkout system. Notwithstanding this uniqueness from prior claims, this embodiment is different from the present invention's operations at the Point of Decision, because in this embodiment the shopper has most likely made their purchase decision already, and is checking out, and any promotional coupon issued would be for the Shopper's future visit.

### **Field of the Invention**

The field of invention is Promotion Optimization